

OPEN MEETING AGENDA ITEM

ORIGINAL



A UniSource Energy Company  
P. O. Box 711  
Tucson, Arizona 85702



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AZ CORP COMMISSION  
DOCKET CONTROL

January 31, 2013

Chairman Bob Stump  
Commissioner Gary Pierce  
Commissioner Brenda Burns  
Commissioner Bob Burns  
Commissioner Susan Bitter Smith

RE: Integrated Resource Planning - Docket No. E-00000A-11-0113

Dear Commissioners:

Tucson Electric Power Company ("TEP" or "Company") submits the following answers in response to Commissioner Pierce's January 11, 2013 letter regarding generating capacity.

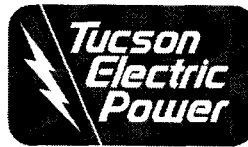
**Question 1: What is the existing reserve capacity for each load-serving entity, and how does that compare with the reserve capacity for that entity over the past twenty years?**

TEP's reserve capacity for 2012 was 12%. For reliability purposes, TEP has generally maintained its operating reserve margins between 7% - 12% over the past twenty years. To put this in context with TEP's load and resources, TEP's system peak load for 2012 was 2404 MW. TEP currently has 2311 MW of generating capacity. Attachment A sets forth a list of TEP's generating sources. During the last 10 years, TEP has relied on the merchant wholesale market for approximately 300 to 500 MW of firm purchased power resources to meet TEP's summer peak. On a system capacity basis, these firm market resources cover approximately 20% of TEP's summer peaking requirements. As part of the Company's on-going hedging practices, TEP firms up its summer capacity requirements with a variety of firm purchased power products from various counterparties prior to the delivery year. Attachment B provides a graph showing TEP's historical loads and resources for the period 1992-2012 and Part 1 of Attachment C provides specific reserve capacity information for the period 1992-2012.

Arizona Corporation Commission  
**DOCKETED**

JAN 31 2013

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**Question 2: What are the load-serving entities' existing off-system sales and how do those sales compare with previous sales over the past twenty years?**

Please see Line 2 of Attachment C, which sets forth this information for the period 1992-2012.

**Question 3: What is the outlook for off-system sales for each load-serving entity in the future?**

Please see Line 3 of Attachment C, which sets forth current estimates for the period 2012-2032.

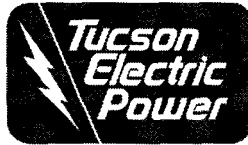
**Question 4: What has been the aggregate capacity factor (actual load served divided by the system load serving capacity) for each load-serving entity over the last twenty years for the following:**

- a. at system peak load for the year,
- b. at average load during the peak month,
- c. at average annual load,
- d. at average load during the lowest load month?

Please see Lines 4a-d of Attachment C, which set forth this information for the period 1992-2012.

**Question 5: Are there reasons to believe that maintaining and even increasing the existing excess reserve capacity in the short-term will mitigate rate increases in the future when an eventual economic recovery will inevitably increase electric demand?**

TEP is actively engaged in the regional wholesale power market and continuously monitors the supply and demand fundamentals for the Desert Southwest region. Based on current market conditions, merchant combined cycle generation assets are valued at a substantial discount to new-build resources. Given TEP's current ability to rely on the wholesale market for short-term power purchases, increasing the existing reserve capacity requirements in the short-term would put upward pressure on customer rates today as current forecasts of retail electricity sales levels remain relatively flat. However, if TEP required more generating capacity in the near future due to projected load growth, reliability requirements or early retirement of a portion of the Company's existing coal fleet, TEP could enter into a long-term power purchase agreement or acquire an existing



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merchant plant based on today's asset valuations to potentially mitigate future rate increases for TEP's customers.

I trust the above information addresses your questions. Please contact me if you have any questions or would like additional information.

Sincerely,

A handwritten signature in black ink, reading "Mike Sheehan".

Mike Sheehan  
Director, Resource Planning  
(520) 884-3656  
[msheehan@tep.com](mailto:msheehan@tep.com)

cc: Docket Control (original and 13 copies)

# ATTACHMENT

"A"

Tucson Electric Power Company  
Integrated Resource Planning

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1 Thermal Resources, MW	1,952	1,952	1,952	1,952	1,952	1,992	1,992	1,896	1,904	1,999	1,999	1,999	1,999	1,999	2,189	2,199	2,199	2,224	2,237	2,249	2,249
SCE Diversity Exchange, MW						110	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
Short-Term Market Purchases, MW																					
Firm Resource Capacity, MW	1,952	1,952	1,952	2,062	2,102	2,102	2,106	2,114	2,214	2,184	2,209	2,384	2,409	2,509	2,664	2,774	2,599	2,724	2,687	2,699	2,699
Renewable Resources, Nameplate MW																					
Total Capacity Including Renewables, MW	1,952	1,952	1,952	2,062	2,102	2,102	2,106	2,114	2,214	2,184	2,212	2,388	2,414	2,514	2,669	2,729	2,604	2,779	2,695	2,712	2,712
Retail Load, MW	1,399	1,449	1,585	1,617	1,619	1,659	1,786	1,754	1,862	1,840	1,899	2,060	2,088	2,225	2,365	2,386	2,295	2,354	2,333	2,334	2,290
Firm Wholesale Loads, MW	129	213	221	194	215	180	186	173	189	167	165	165	158	135	136	138	130	160	136	133	114
Total Firm Load Obligations, MW	1,528	1,662	1,806	1,811	1,834	1,839	1,972	1,927	2,051	2,007	2,064	2,225	2,246	2,360	2,501	2,524	2,425	2,514	2,469	2,467	2,404
Reserve Capacity, MW	424	290	146	251	268	263	134	187	163	177	145	159	163	149	163	200	174	210	218	232	295
Reserve Margin, %	28%	17%	8%	14%	15%	14%	7%	10%	8%	9%	7%	7%	7%	6%	7%	8%	7%	8%	9%	9%	12%
2 Sales for Resale GWh (1)	1,850	1,926	1,946	1,802	2,684	2,581	3,585	4,297	4,976	5,910	3,549	2,166	2,162	3,277	3,717	3,948	4,471	3,794	2,927	2,697	3,139
3 Economy Sales from System Resources, GWh (2)	1328	1135	1592	1939	2250	2409	2119	2357	1338	1125	1369	1269	1056	614	526	450	419	389	362	337	313
Firm Resource Capacity (Peak Month), MW	1,952	1,952	1,952	2,062	2,102	2,102	2,106	2,114	2,214	2,184	2,209	2,384	2,409	2,509	2,664	2,724	2,599	2,724	2,687	2,699	2,699
Firm Resource Capacity (Non Peak Month), MW	1,952	1,952	1,952	1,952	1,992	1,992	1,896	1,904	1,904	1,999	1,999	1,999	1,999	1,999	2,189	2,199	2,199	2,224	2,237	2,249	2,249
4 a. System Peak (Month-Year)	08-1992	08-1993	06-1994	08-1995	07-1996	8-1997	7-1998	7-1998	08-2000	09-2001	06-2002	08-2003	08-2004	07-2005	07-2005	07-2006	06-2008	08-2009	07-2010	06-2011	08-2012
Peak Demand (MW)	1,528	1,862	1,806	1,811	1,834	1,839	1,972	1,927	2,051	2,007	2,064	2,225	2,246	2,360	2,501	2,524	2,425	2,514	2,469	2,467	2,404
Peak Hour Capacity Factor (3)	78%	85%	93%	88%	87%	87%	94%	91%	93%	97%	93%	93%	94%	94%	94%	93%	93%	93%	92%	91%	89%
4 b. Average Load Served for the Peak Month	1,276	1,356	1,371	1,438	1,538	1,629	1,959	1,830	2,086	1,964	1,893	1,658	1,676	1,964	1,908	2,029	2,357	2,080	2,069	1,861	1,829
Average Capacity Factor Including Resale (4)	63%	69%	70%	70%	73%	78%	93%	93%	94%	90%	86%	70%	70%	78%	72%	74%	91%	76%	77%	69%	68%
Average Load Served for the Peak Month	950	995	1,043	1,121	1,185	1,162	1,214	1,166	1,242	1,236	1,263	1,341	1,339	1,664	1,552	1,525	1,472	1,533	1,527	1,379	1,487
Average Capacity Factor Excluding Resale (5)	49%	51%	53%	54%	56%	55%	58%	55%	56%	57%	57%	56%	56%	66%	58%	56%	57%	56%	57%	51%	55%
4 c. Average Load Served for the Year Including Resale	1,037	1,134	1,218	1,131	1,302	1,338	1,478	1,579	1,721	1,853	1,520	1,418	1,452	1,615	1,696	1,781	1,815	1,676	1,670	1,589	1,580
Average Annual Capacity Factor (6)	53%	58%	62%	58%	65%	67%	78%	83%	90%	93%	76%	71%	73%	81%	77%	81%	83%	75%	72%	71%	70%
Total Load Including Resale	794	813	860	866	917	935	951	970	1,002	1,026	994	1,026	1,057	1,243	1,294	1,154	1,151	1,146	1,130	1,131	1,173
Average Load Served for the Year Excluding Resale	41%	42%	44%	44%	46%	47%	50%	51%	53%	51%	50%	51%	53%	62%	59%	52%	52%	51%	50%	50%	52%
Average Annual Capacity Factor (7)																					
Total Load Excluding Resale																					
4 d. Lowest Load Month (Month-Year)	02-1992	03-1993	03-1994	02-1995	08-1996	11-1997	11-1998	08-1999	02-2000	03-2001	03-2002	01-2003	01-2004	03-2005	02-2006	02-2007	03-2008	03-2009	03-2010	11-2011	3-2012
Average Load Served Lowest Load Month (include Resale)	925	970	1,114	1,011	1,084	1,326	1,373	1,342	1,544	1,549	1,221	1,241	1,339	1,337	1,593	1,714	1,515	1,382	1,338	1,498	1,388
Minimum Month Capacity Factor incl. Resale (8)	47%	50%	57%	52%	54%	67%	72%	70%	81%	77%	61%	62%	67%	67%	73%	78%	69%	62%	60%	67%	62%
Average Load Served Lowest Load Month (Excluding Resale)	695	693	713	740	767	808	796	839	857	856	824	819	889	1,048	1,108	939	932	935	987	936	925
Minimum Month Capacity Factor excl. Resale (9)	36%	36%	37%	38%	38%	41%	42%	41%	45%	43%	41%	41%	44%	52%	51%	43%	42%	42%	44%	42%	41%

Notes:  
(1) Data Source, IERC Form 1 (Sales for Resale, Account 447). Based on aggregate system sales and includes sales transactions not sourced out of TEP's resource capacity.

(2) Data Source, 2012 TEP Planning Forecast. Only includes sales sourced out of TEP's resource capacity.

(3) Peak Demand Excluding Resale (Peak Month MW) / Firm Resource Capacity (Peak Month MW)

(4) Average Demand Including Resale (Peak Month MW) / Firm Resource Capacity (Peak Month MW)

(5) Average Demand Excluding Resale (Peak Month MW) / Firm Resource Capacity (Peak Month MW)

(6) Average Annual Demand Including Resale / Firm Resource Capacity (Non Peak Month MW)

(7) Average Annual Demand Excluding Resale / Firm Resource Capacity (Non Peak Month MW)

(8) Average Demand Including Resale (Lowest Month MW) / Firm Resource Capacity (Lowest Month MW)

(9) Average Demand Excluding Resale (Lowest Month MW) / Firm Resource Capacity (Lowest Month MW)

# ATTACHMENT

"C"

Tucson Electric Power Company  
Integrated Resource Planning

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1 Thermal Resources, MW																					
SEI Diversity Exchange, MW	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952
SEI Term Market Purchases, MW																					
Firm Resource Capacity, MW	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952
Renewable Resources, Renewable MW																					
Total Capacity Including Renewables, MW	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952
Peak Load, MW	1,399	1,410	1,585	1,617	1,619	1,659	1,785	1,784	1,862	1,840	1,809	2,060	2,088	2,225	2,365	2,386	2,395	2,354	2,333	2,371	2,390
Firm Wholesale Loads, MW	1,271	1,213	1,221	1,191	1,215	1,180	1,173	1,189	1,157	1,165	1,165	1,158	1,158	1,135	1,135	1,138	1,130	1,160	1,136	1,133	1,114
Total Firm Load Obligations, MW	1,528	1,602	1,806	1,811	1,834	1,839	1,972	1,972	2,051	2,007	2,064	2,225	2,266	2,360	2,501	2,524	2,425	2,410	2,409	2,467	2,401
Reserve Capacity, MW	421	790	156	751	258	263	134	18	163	177	145	159	163	149	163	200	174	210	218	232	295
Reserve Margin, %	28%	17%	8%	14%	15%	14%	14%	10%	8%	9%	7%	7%	7%	6%	7%	8%	7%	9%	9%	9%	17%
2 Sales for Resale, GWh (1)	1,850	1,926	1,916	1,807	2,684	2,581	3,585	4,297	4,916	5,919	3,549	2,166	2,162	3,277	3,717	3,948	4,471	4,794	2,937	2,697	3,119
3 Economy Sales from System Resources, GWh (2)	1375	1135	1592	1939	2250	2409	2119	2757	1338	1125	1369	1269	1066	614	556	450	419	389	387	337	213
Firm Resource Capacity (Peak Month), MW	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952
Firm Resource Capacity (Non Peak Month), MW	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952
4a System Peak (Month-Year)	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952	1,952
Peak Demand (MW)	1,538	1,662	1,806	1,811	1,834	1,839	1,972	1,972	2,051	2,007	2,064	2,225	2,266	2,360	2,501	2,524	2,425	2,410	2,409	2,467	2,401
Peak Hour Capacity Factor (3)	78%	87%	92%	98%	97%	94%	97%	97%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	93%	89%
4b Average Load Served for the Peak Month	1,236	1,356	1,311	1,438	1,518	1,529	1,959	1,870	2,066	1,964	1,893	1,658	1,676	1,964	1,908	2,029	2,357	2,089	2,060	1,961	1,839
Average Capacity Factor Excluding Resale (5)	63%	69%	70%	70%	73%	78%	93%	87%	90%	86%	70%	70%	78%	72%	74%	81%	81%	76%	77%	69%	68%
Average Load Served for the Non Peak Month	650	705	1,014	1,113	1,185	1,162	1,214	1,166	1,232	1,236	1,263	1,341	1,339	1,661	1,552	1,575	1,472	1,473	1,517	1,329	1,487
Average Annual Capacity Factor (4)	40%	51%	53%	54%	58%	55%	58%	55%	58%	57%	56%	56%	56%	56%	56%	56%	56%	56%	56%	53%	55%
Total Load Including Resale	1,037	1,133	1,218	1,131	1,342	1,238	1,418	1,519	1,721	1,853	1,500	1,418	1,452	1,615	1,696	1,781	1,815	1,676	1,679	1,589	1,550
Average Load Served for the Year Excluding Resale	794	818	860	865	917	935	971	970	1,002	1,076	904	1,026	1,057	1,243	1,294	1,154	1,151	1,146	1,130	1,131	1,173
Average Annual Capacity Factor (7)	41%	42%	44%	44%	46%	47%	50%	51%	53%	50%	51%	53%	53%	57%	58%	52%	52%	52%	51%	50%	52%
Total Load Excluding Resale	794	818	860	865	917	935	971	970	1,002	1,076	904	1,026	1,057	1,243	1,294	1,154	1,151	1,146	1,130	1,131	1,173
4d Lowest Load Month (Month-Year)	9/25	9/10	11/14	10/11	1/28	1/28	1/28	1/10	1/5	1/5	1/21	1/21	1/21	1/21	1/21	1/21	1/21	1/21	1/21	1/21	1/21
Average Load Served (Lowest Load Month) (including Resale)	47%	50%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%
Minimum Month Capacity Factor and Resale (8)	47%	50%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%	57%
Average Load Served (Lowest Load Month) (Excluding Resale)	60%	60%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%	71%
Minimum Month Capacity Factor (Excluding Resale) (9)	36%	36%	37%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%	38%

Notes:

- (1) Data Source: ITRC from Ebasco for Resale, Account 447. Based on aggregate system sales and includes sales transactions not sourced out of IEP's resource capacity.
- (2) Data Source: 2012 IEP Planning Forecast. Only includes sales sourced out of IEP's resource capacity.
- (3) Peak Demand Excluding Resale (Peak Month MW) / Firm Resource Capacity (Peak Month MW)
- (4) Average Demand Including Resale (Peak Month MW) / Firm Resource Capacity (Peak Month MW)
- (5) Average Demand Excluding Resale (Peak Month MW) / Firm Resource Capacity (Peak Month MW)
- (6) Average Annual Demand Including Resale / Firm Resource Capacity (Peak Month MW)
- (7) Average Annual Demand Excluding Resale / Firm Resource Capacity (Peak Month MW)
- (8) Average Demand Including Resale (Lowest Load Month) / Firm Resource Capacity (Peak Month MW)
- (9) Average Demand Excluding Resale (Lowest Load Month) / Firm Resource Capacity (Peak Month MW)